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**From:** Schulman, Michael [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=35D7024F00644B3D8B5DBA4940506834-SCHULMAN, M]  
**Sent:** 6/7/2021 8:33:43 PM  
**To:** Lee, Alana [lee.alana@epa.gov]  
**Subject:** RE: TCE in Outdoor Air and the AMD/TRW Microwave Superfund Site

Thanks. I have only seen some of the outdoor air raw data during a Teams meeting. The offsite sample locations had low TCE concentrations, while the onsite outdoor TCE concentrations appear elevated. I haven't seen the TCE concentrations from the vent stacks; however, per Locus the total mass of TCE being discharged in aggregate from all of the Triple Site mitigation systems is less than BAAQMD's Regulation 8, Rule 47 (Air Stripping and Soil Vapor Extraction Operations) discharge limit. Just from a preliminary discussion with Matt (including some speculation) there may be an offsite or unknown source(s) onsite given how widespread outdoor TCE may be. The outdoor air evaluation report is still pending.

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**From:** Lee, Alana <lee.alana@epa.gov>  
**Sent:** Monday, June 7, 2021 1:18 PM  
**To:** Schulman, Michael <Schulman.Michael@epa.gov>  
**Subject:** RE: TCE in Outdoor Air and the AMD/TRW Microwave Superfund Site

Hi Michael,

JMB and EKI represent many commercial property owners in the South Bay. Google is one of EKI's clients. EKI is certainly interested in and keeping tabs on other sites and ambient air.

I'm interested in Philips outdoor air evaluation when you have it. If outdoor air TCE concentrations are elevated and you determine them to be in from the GW and/or VI systems, they should be addressed.

I'm around if you want to schedule a call to discuss.

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**From:** Schulman, Michael <Schulman.Michael@epa.gov>  
**Sent:** Friday, June 4, 2021 4:50 PM  
**To:** Lee, Alana <lee.alana@epa.gov>; Plate, Mathew <Plate.Mathew@epa.gov>  
**Cc:** Fuoco, Angie <Fuoco.Angie@epa.gov>; Poalinelli, Edwin <POALINELLI.EDWIN@EPA.GOV>; Ty, Fatima <Ty.Fatima@epa.gov>; Reynolds, Rebekah <Reynolds.Rebekah@epa.gov>; Manheimer, Kelly <manheimer.kelly@epa.gov>  
**Subject:** FW: TCE in Outdoor Air and the AMD/TRW Microwave Superfund Site

Just an FYI, Angie and I received the inquiry from John Montgomery-Brown below who I think is or has been involved with other Superfund sites (Moffett Field?)? He is also a listed Team Contact for ITRC's Incremental Sampling Methodology guidance. I'd be curious if his questions would also be related to other RPMs' sites? I can't respond today but will next week with the documents he requests. For context, Philips/Locus did complete the outdoor air evaluation for the Triple Site; however, results to EPA are pending. I'll note that I have questions on the statistical approach in the 5YR indicating outdoor air TCE concentrations appear to be increasing as I don't think it accounts for the changes in the # of samples collected each period or a spatial sampling design (I'd say the 5YR evaluation more points to a hypothesis that needed to be tested). However, empirically outdoor air concentrations within (and perhaps even adjacent to?) Triple Site appear elevated, which is being evaluated. Matt and I also talked about this last week.

If you have comments or input on the outdoor TCE concentrations please call me or let me know and I'll coordinate a meeting.

Michael

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**From:** John Montgomery-Brown <[jmontgomery-Brown@ekiconsult.com](mailto:jmontgomery-Brown@ekiconsult.com)>  
**Sent:** Friday, June 4, 2021 3:05 PM  
**To:** Schulman, Michael <[Schulman.Michael@epa.gov](mailto:Schulman.Michael@epa.gov)>; Fuoco, Angie <[Fuoco.Angie@epa.gov](mailto:Fuoco.Angie@epa.gov)>  
**Cc:** Zachary Salin <[zsalin@ekiconsult.com](mailto:zsalin@ekiconsult.com)>  
**Subject:** TCE in Outdoor Air and the AMD/TRW Microwave Superfund Site

Michael and Angie:

I recently reviewed the Fifth 5-Year Review Report for the AMD/TRW Microwave Superfund Site (the "Fifth 5-Year Review Report", attached) prepared by the US Army Corps of Engineers on behalf of USEPA (Region IX) and was surprised by the (1) consistent presence of trichloroethene ("TCE") in ambient/outdoor air samples in Sunnyvale, California (see Figure 5 of the Fifth 5-Year Review Report) at concentrations that are significantly above the 2011-2013 background concentrations measured in Cupertino and San Jose (attached) and (2) the fact that a number of the reported outdoor air concentrations are greater than the residential Regional Screening Level ("RSL") for TCE in indoor air (0.48 micrograms per cubic meter or ug/m3).

The Fifth 5-Year Review Report states the following (emphasis mine) with respect to the reported outdoor air concentrations presented in Figure 5:

*"Sampling of ambient outdoor air (which occurs during each indoor air sampling event) has occurred regularly in the Offsite OU since January 2015. **The results of this outdoor air sampling have shown varying levels of TCE with a general upward trend. Data received more recently in May 2019 from Philips showed outdoor air TCE levels of up to 3.6 µg/m3 during the October 2018 and January 2019 sampling events at the Signetics Site (where the treatment system for the AMD and TRW sites and Offsite OU TCE groundwater plume is located and where a sub-slab depressurization system has recently been installed at a commercial-type building.** (Figure 6) While the highest outdoor air TCE measurements have generally been observed in the November – January timeframe, **these spikes appear to be increasing over time.**"*

Based on these data, the Fifth 5-Year Review Report to recommended additional investigation of the "contributions to outdoor air TCE levels from fugitive emissions from the groundwater treatment system and emissions from the vapor intrusion mitigation systems" for the Offsite OU. Are there any documents or results available for this investigation? If so, I would greatly appreciate it if you could send them to me for review.

Also, in reviewing the 2018 settlements for the Signetics Site (Triple Site) and the Offsite Operable Unit (Triple Site), Appendix C (the Statements of Work) indicates that the Responsible Parties are to prepare a Vapor Work Plan for the Signetics Site and an Updated Removal Work Plan for the Offsite Operable Unit. If you could send me these documents (or the results of these investigations), I'd greatly appreciate it.

Thanks!

JMB

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